

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Biennial Regulatory Review – Amendment)	WT Docket No. 03-264
of Parts 1, 22, 24, 27 and 90 to Streamline)	
and Harmonize Various Rules Affecting)	
Wireless Radio Services)	

Reply Comments of Powerwave Technologies, Inc.

Powerwave Technologies, Inc. (“Powerwave”), by its attorneys, pursuant to Section 1.415 of the Commission’s rules, hereby submits its reply comments in the above-captioned proceeding.

Based on a request by Powerwave, the Commission has proposed to amend Section 24.232(a) of the Broadband PCS rules either to clarify that the base station output peak power limit of 100 watts applies on a per carrier (rather than per transmitter) basis in the case of Multi-carrier Power Amplifiers (MCPAs) or to eliminate the output power restriction entirely, relying instead on the 1640 watt EIRP limit. As Powerwave has argued (and as most commenters have agreed), by previous Commission interpretation, EIRP is to be measured on a per carrier basis. Powerwave has noted that these amendments to Section 24.232(a) would comport with common industry practice and understanding of how the rules are to be applied.¹

Powerwave is gratified that, for the most part, those commenting on the Commission’s proposal agreed that the 100 watt power limit be clarified to apply on a per carrier basis, if not eliminated entirely. A few commenters, however, expressed a

¹ See e.g. Comments of Lucent Technologies

preference for applying a spectral power density standard (SPD), a fundamental change in the way PCS equipment is currently designed and tested, in order to address perceived advantages that they believe narrow bandwidth systems currently enjoy.

Powerwave is constrained to note that the Commission is not bound by any rule to seek technological parity for differing technologies. The various air interfaces used by PCS operators are a matter of choice which the Commission has wisely left to the industry. Each interface has advantages and disadvantages. It is not likely that the Commission can or should attempt to create neutrality where none exists. Such a task, moreover, would be nearly impossible. Indeed, when the Commission declined the opportunity in 1994 to adopt SPD limits, it espoused the sensible philosophy that “system design partakes of many considerations other than power tradeoffs inherent in narrowband and wideband systems. We find that our current definition of power limitations does not constrain licensees considering such choices; nor does it significantly favor one technology over another.”²

Having said this, however, Powerwave does not object to the concept of SPD limits as an alternative for wideband systems. However, as Powerwave stated in its comments, hastily adopted limits that turn out to be inadequate could necessitate additional base station construction whose costs would inevitably be passed on to consumers. Powerwave also agrees with Cingular that, as a practical matter, a SPD limit might be difficult to measure by field technicians. Further, as the comments make clear, there is considerable dispute as to whether SPD limits -- ostensibly designed to correct an existing bias against wide band systems -- would, in fact, create an imbalance in favor or

² *Third Memorandum Opinion and Order on Reconsideration* in Docket 90-314, 9 FCC Rcd 6908, 6918 (1994)

wideband systems.³ Presumably, an SPD limit could be chosen such that technological neutrality could be achieved between wideband and narrowband systems. But again, Powerwave does not believe the Commission has sufficient information to move to an SPD limit based only on the record in this proceeding.⁴ SPD limits – even as an alternative -- would represent a sea change in the way base station power levels have always been measured; accordingly, consideration of this issue might be more appropriate in the context of a review of power limits in all the mobile services.

In the meantime, Powerwave sees little justification for not proceeding to amend Section 24.232(a) as proposed to conform to previous Commission interpretations and bring the rules into conformity with widespread industry practice.⁵ The requirement for base station power should be eliminated or, at least, be amended to specify measurement on a per carrier basis. Additionally, the Commission should clarify that EIRP should be measured on a per carrier basis.

Respectfully submitted,

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³ See Comments of Ericsson. Motorola, apparently trying to address this issue, suggested that the Commission adopt an SPD limit only for systems exceeding 1MHz of bandwidth.

⁴ Powerwave has agreed to meet with the other parties filing on this issue to attempt to reach some consensus on this issue, and will file additional comments with the Commission should these efforts prove fruitful.

⁵ Ericsson requests the Commission to conform its rules to the accepted practice of using average rather than peak measurements for output power. Powerwave agrees with this suggestion.

